

What is claimed is:

1. A method of communicating with below-grade devices, comprising:  
receiving or sending transmitted radio frequency (RF) signals to or from at least one below-grade device, wherein said at least one below-grade device is conductively connected to at least one low profile antenna mounted in a groove of a traffic surface, said low profile antenna comprising:  
a first elongated element made from an electrically conductive material;  
a second elongated element made from the electrically conductive material; and  
a cable that is conductively attached to the first and second elongated elements and conductively connects to said at least one below-grade device;  
wherein the first and second elongated elements each have a height that is of a low profile and lengths that are substantially equal; and  
wherein each elongated element is covered at least partially with a substantially non-conductive covering.
2. The method of Claim 1 wherein said RF signals are sent or received by a mobile transceiver.
3. The method of Claim 2 wherein said mobile transceiver is carried in a vehicle.
4. The method of Claim 2 wherein said mobile transceiver is handheld.

5. The method of Claim 1 wherein said at least one traffic surface is selected from the group consisting of roadway, sidewalk, decking, floor, stairway, storm sewer grating, and manhole cover.

6. The method of Claim 1 wherein said at least one low profile antenna comprises at least one antenna fixed with an adhesive material in at least one groove or recess of an upper surface of said at least one traffic surface.

7. The method of Claim 1 wherein said at least one below-grade device comprises at least one flow meter.

8. The method of Claim 1 wherein said at least one below-grade device is located within a sewer network.

9. A method of monitoring data transmissions by below-grade devices, comprising:

receiving data transmissions from at least one below-grade device on a receiving transceiver, wherein said at least one device is conductively connected to at least one low profile antenna mounted in a groove of a traffic surface, said low profile antenna comprising:

a first elongated element made from an electrically conductive material;  
a second elongated element made from the electrically conductive material; and  
a cable that is conductively attached to the first and second elongated elements and conductively connects to said at least one below-grade device;

wherein the first and second elongated elements each have a height that is of a low profile and lengths that are substantially equal; and

wherein each elongated element is covered at least partially with a substantially non-conductive covering.

10. The method of Claim 9 wherein said data transmissions are received by a mobile transceiver.

11. The method of Claim 10 wherein said mobile transceiver is carried in a vehicle.

12. The method of Claim 10 wherein said mobile transceiver is handheld.

13. The method of Claim 9 wherein said at least one traffic surface is selected from the group consisting of roadway, sidewalk, decking, floor, stairway, storm sewer grating, and manhole cover.

14. The method of Claim 15 wherein said at least one low profile antenna comprises at least one antenna fixed with an adhesive material in at least one groove or recess of an upper surface of said at least one traffic surface.

15. The method of Claim 9 wherein said at least one below-grade device comprises at least one flow meter.

16. A method of monitoring a plurality of underground devices, comprising:  
receiving signals transmitted by at least two underground devices;

wherein said at least two underground devices each comprise at least one low profile antenna mounted in a groove of at least one traffic surface, said low profile antenna comprising:

a first elongated element made from an electrically conductive material;

a second elongated element made from the electrically conductive material; and

a cable that is conductively attached to the first and second elongated elements and conductively connects to said underground device;

wherein the first and second elongated elements each have a height that is of a low profile and lengths that are substantially equal; and

wherein each elongated element is covered at least partially with a substantially non-conductive covering; and

wherein said signals are received at a central data collection point.

17. The method of Claim 16 wherein said signals are received by at least one mobile transceiver which relays the signals to said central data collection point.

18. The method of Claim 17 wherein said at least one mobile transceiver is handheld.

19. The method of Claim 16 wherein said at least one traffic surface is selected from the group consisting of roadway, sidewalk, decking, floor, stairway, storm sewer grating, and manhole cover.

20. The method of Claim 16 wherein said at least one low profile antenna comprises at least one antenna fixed with an adhesive material in at least one groove or recess of an upper surface of said at least one traffic surface.